Wintec

LP–301 Instruction Manual

NOTE

《regulations of radio management of the People's Republic of China》 rule:The units and individual who use the radio equipment in the People's Republic of China,must apply for and get the Radio license from the Radio management institutions.

Thank you very much for choosing our transceiver. transceiver provides you with reliable, clear and efficient communication service.

The transceiver introduces innovative DSP (Digital Signal Processing) baseband processing system to achieve high-fidelity voice processing and encryption,it boasts best stability and reliability .With fashionable design and smooth exterior lines,PL-301 boasts loud and nice timbre,high power,long distance communication,high capacity battery,long standby time plus optional built-in bluetooth function.It is a cost-effective and multi-functional professional transceiver which meets needs of every walk of life. It is convinced that you will be satisfied with this transceiver's quality and functions. For your full comprehension of the various excellent functions and maintenance, please read the user manual before use.

CAUTION: when programming the transceiver,read the factory initial data first,then rewrite the frequency and signialing etc.,otherwise errors may occur because of different frequency band etc.

User Manual applied to :
LP-301 UHF FM Transceiver VHF FM Transceiver LP-301 programming software:WPS-301

SAFETY INFORMATION FOR USER

Wintec transceiver is excellently designed with advanced technology. Please observe the following precautions to perform your obligation, prevent personal injury and ensure the safety of transceiver usage.

1. Keep the transceiver and accessories away from children.
2. Please do not try to open or modify the transceiver without permission, non-professionals process may also cause damage.
3. Please use assorted battery and charger to avoid damage.
4. Please use assorted antenna to ensure the communication distance.
5. Please do not expose the transceiver to long period of direct sunlight, nor place it close to heat appliances.
6. Please do not put the transceiver in excessively dusty or humid areas.
7. Do not use harsh chemicals, cleaning solvents to clean the transceiver.
8. Do not transmit without antenna.
9. When using this transceiver, we recommend transmitting for 1 minute then receiving for 4 minutes. Continuous transmitting for long time or working in high power will heat the back of the transceiver. Do not place the transceiver's hot back close to any surface of plastic.
10. If any abnormal odor or smoke detected coming from the transceiver, turn off the power and take off the battery pack and its case .Then contact local Wintec dealers.

ATTENTION

All tips above apply to accessories of your transceiver.If any debice can not work normally,please contact Wintec lcoal dealers .If you use any accessories made by other companies, Wintec company does not guarantee the operability and saftey of the transceiver .

○ CONTENT

UNPACKING 01
Supplied accessories chart 01
STANDARD ACCESSORIES/OPTIONAL ACCESSORIES 02
Standard accessories 02
Optional accessories 02
BATTERY INFORMATION 03
Charging Operation 03
Battery Charger Type 03
Notice for Charging Battery 03
How to Charge 04
Normal Charging Tips 05
How to Store the Battery 05
PREPARATION 06
Installing / Removing the Li-ion Battery 06
Installing / Removing the Antenna 06
Installing / Removing the Belt Clip 07
Installing the Additional Speaker/ Microphone (Option) 07
GETTING ACQUAINTED 08
LCD Display 08
Front Panel 09
Side Panel 10
BASIC OPERATION 11
Turn on/off Transciver 11
Adjusting Volume 11
Operating mode switch 12
Channel selection 12
Prority Channel 12
Prority Channel Setup 12
Frequency adjustment 13
Frequency input by keypad 13
Channels input by keypad 13
Squelch off /Momentary Squelch off 14

◦ CONTENT

Receiving 14
Transmitting 14
Side key [PF1] function introduction 15
Side key [PF2] function introduction 15
Scan function 17
Turn on/off radio function 17
Delete/Add FM Radio 18
FM radio scan 18
Frequency copy 18
SHORTCUT FUNCTION SETUP 19
Editing Channels 19
Delecting Channels 19
Copying Channels 19
Offset frequency setup 19
Squelch levels setup 20
High and low power setup 20
CTCSS/DCS Encode Setup 21
Offset frequency direction Setup 21
Frequency Step size setup 22
CTCSS/DCS Decode Setup 22
VOX On/Off 22
Frequency reverse 23
DTMF Code Selective 23
DTMF Code Transmitting 24
Remotely kill/waken 24
Remotely stun/waken 24
Channels scan skip 25
Frequency/channels scan 25
Switch Between VFO and Frequency +Channel Mode 26
Keypad Lock 26
FUNCTION MENU SETUP 27
Squelch Level Setup 27

○ CONTENT

High and low power setup 27
CTCSS/DCS encode setup 28
CTCSS/DCS decode setup 29
Offset frequency direction Setup 29
Frequency Step size setup 30
Frequency reverse 30
Voice operated Transmission (VOX) Setup 31
VOX Level Setup 32
VOX Delay Setup 32
Non-signaling Tail Tone Elimination 33
PTT Key Voice Prompt 33
Frequency Reverse Setup 34
The Automatic Shutdown Time Setup 34
Vox Beep Setup 35
LCD Backlight Setup 35
FM Radio Return Time setup 36
Battery Save Setup 36
Scan Dwell Time Setup 37
Time-out-Timer 38
Offset Frequency Setup 38
DTMF Group Code Setup 39
DTMF Turn On Time setup 39
DTMF Turn Off Time setup 40
Noise Reduction Function Setup 40
Busy Channel Lock 41
Display Mode Setup 41
Editing Channel Name 42
Turn On /Off Optional Signal 42
Signaling Relations Setup 43
Wide/Narrow Band Setup 43
Function Icon Dwell Time Setup 44
Current Battery Voltage Enquiry 45

◦CONTENT

Starting Display Setup 45
Display Character Defined By User 46
PROGRAMMING SOFTWARE STARTING(TAKES WINDOW XP FOR EXAMPLE) 47
TECHNICAL SPECIFICATIONS 48
TROUBLE SHOOTING GUIDE ELIMINATION METHOD 49
ATTACHED CHART 1 50
CTCSS Frequency Chart 50
ATTACHED CHART 2 51
DCS Frequency Chart 51

Please carefully unpack the transceiver.We recommend that you identify the items listed in the following table before discarding the packing material .If any items are missing or have been damaged during shipment ,pls contact with dealers immediately.

Supplied accessories chart

Item	Number	Quantity
Antenna	VHF(135-175MHz)	1
	UHF(400-480MHZ) etc.	1
Li-ion Battery	BT FR30 LI	1
Battery Charger	L CHG 30B	1
AC adaptor	ADA 12V	1
Belt clip	LP-84M	1
Instruction Manual		1
Warranty card		1
certificate of quality		1

○ STANDARD ACCESSORIES/OPTIONAL ACCESSORIES

Standard accessories

Antenna *1
VHF(135~175MHz)
UHF(400~480MHz) etc.

Battery
BT FR30 LI

Charger
L CHG 30B

AC adaptor
(12V/500mA)
ADA 12V

Belt clip
LP-84M

Instruction Manual

Warranty card

certificate of quality

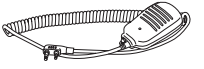
∗1 Note:For the frequency band of Antenna ,please refer to label indicated in the bottom of the antenna

Optional accessories

USB Programming Cable
WI AL02

Earphone
LP-83A、LP-83B、LP-83C

Programming software
WPS-301



Handheld Microphone
LP-82A

Charging Operation

The battery is not charged at the factory, please charge it before use. Charge the battery for the first time after purchase or extended storage (more than 2 months) may not bring the battery to its normal operating capacity. After repeating fully charge/ discharge cycle for two or three times, the operating capacity will reach the best performance. The battery life is over when its operating time decreases even though it is fully and correctly charged. Replace the battery.

Battery Charger Type

Please use our company's designated charger, other models may cause explosion and injure people. After installing the battery, if the radio displays low battery, please charge the battery.

Notice for Charging Battery

- ▼Do not shortcircuit our company designated charger. Never attempt to remove the casing from the battery, we show no responsibility on the faulty caused by modifying freely without permission of our factory.
- ▼The ambient temperature should be between 5℃and 40℃in charging. Charging outside this range may not fully charge the battery.
- ▼Always switch off the transceiver equipped with a battery before charging. Otherwise, it will interfere with correct charging.
- ▼To avoid interfering the charging procedure, please do not cut off the power or take out the battery during charging.
- ▼Do not recharge the battery if it is already fully charged. This may shorten the life of the battery or damage the battery.
- ▼Do not charge the battery or transceiver if it is damp. Dry it before charging to avoid danger. Notice for Charging Battery.

WARNING

When keys or ornamental chains and other electric metails contact with the battery terminals,the battery may cause damage or hurt bodies.If the battery terminal short circuit.It will generate a lot of heat ,Take care when carrying and using the battery. Remember to put the battery or radio into insulated container .Do not put into metal container.

○ BATTERY INFORMATION

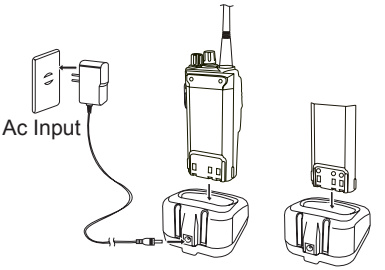
How to Charge

1. Plug the AC adaptor into the AC outlet, and then plug the cable of the AC adaptor into the DC jack located on the back of the Charger. The Indicator lights orange (1s) and then goes out----waits to charge.

2. Plug the battery or transceiver into the charger. Make sure that the battery terminals are in contact with charging terminals well. The Indicator turns into twinkling red-----Pre-charging begins.

3. After pre-charging for about 5 minutes, the indicator will stop twinkling----charging begins.

4. It takes approximately 4 hours to fully charge the battery. When the lamp lights green, the charging is finished. Remove the battery or the transceiver equipped with battery from socket.



NOTE: when charging a power-on transceiver equipped with battery.The indicating lamp will not turn into green to show the fully charged status.Only when the transceiver is switched off.Can the lamp indicate mornally.The transceiver consumes energy when it is power-on and the charger can not detect the viltage when the battery has been fully charged.So the charger will charge battery in constant voltage and fail to indicate correctly whether the battery has been charged fully.

5. Charging Process

Charging Status	Indicator Status
Standby (Self-examine lights orange 1second when power on)	None
Pre-charging (Pre-charging stage)	Red light twinkles for about 5 minutes
Charging (Charge in a constant current)	Lights red for about 4 hours
Fully charged (Charge in a constant voltage)	Lights green

6. LED indicator:

STATUS	Self-Examine When Power on	No Battery	Pre-charging	Charge Normally	Fully Charged	Trouble
LED	Orange (for 1 second)	None	Red Light Twinkles for 5 Minutes	Red	Green	Red twinkles for a long time

NOTE:Trouble means battery heating,batteru-circuit or charger short-circuit.

Normal Charging Tips

1. **Self- Examination:** When charging, orange light twinkles for 1 second and goes out, which means the charger has passed its self-examination and it can charge the battery normally. If the light remains orange or the red light twinkles, it means the charger can not pass its self-examination or charge the battery.

2. **Trickle Pre-Charging:** If red light twinkles when battery is inserted into the charger, it means the remnant voltage is low and the charger is trickle-charging the battery (Pre-Charging Status). The charger will automatically turn into normal charging when the battery reaches a certain electric quantity, And if the red light stops twinkling, it means the remnant voltage meets a certain electric quantity, the charger will charge the battery normally.

NOTE:Trickle charging(Pre-charging status)time can not beyond 30 minutes.If the indicating lamp still twinkles after 30-minute Trickle-charging ,it mean that the charger can not charge the battery.Please check whether the battery or charger is damaged.

How to Store the Battery

1. If the battery needs to be stored, keep it in status of 50% discharged.

2. It should be kept in low temperature and dry environment.

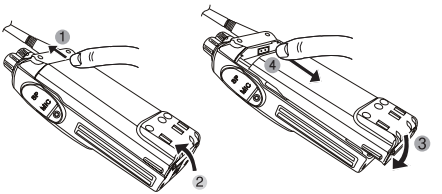
3. Keep it away from hot places and direct sunlight.

WARNING

- ▼ Do not short circuit battery terminals.
- ▼ Never attempt to remove the casing from the battery pack.
- ▼ Never assemble the battery in dangerous surrounding spark may cause explosion.
- ▼ Do not put the battery in hot environment or throw it into fire,it may cause explosion.

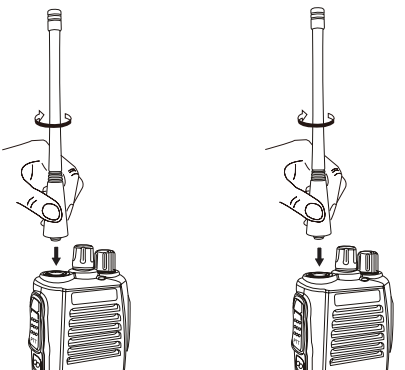
○ PREPARATION

Installing / Removing the Li-ion Battery



1. Match the two grooves of the battery pack with the corresponding guides on the back of the transceiver, and then push it.
2. Press the battery pack until the release latch on the top of the transceiver locks. After hearing a “click” sounds, the battery has been locked.
3. To remove the battery pack, slide up the release latch and remove the pack away from the transceiver.

Installing / Removing the Antenna

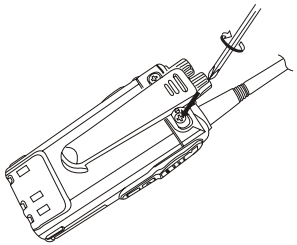


Installing the Antenna: Screw the antenna into the connector on the top of the transceiver by holding the antenna at its base and turning it clockwise until secure.

Removing the Antenna: Turn the antenna anticlockwise to remove it.

Installing / Removing the Belt Clip

Installing the Belt Clip: Place the belt clip to the corresponding grooves on the back of the transceiver, and then clockwise screw it.
Removing the Belt Clip: Anticlockwise turn the screws to remove the belt clip.

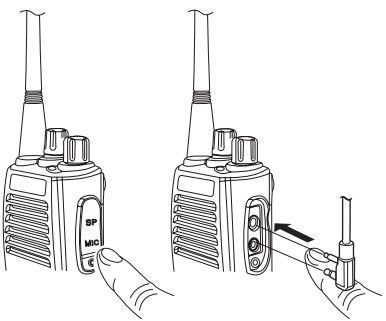


Installing the Additional Speaker/ Microphone (Option)

Unveil the MIC-SP jack cover and then insert the Speaker/Microphone plug into MIC-SP jack. If not use Speaker/Microphone,please cover the MIC-SP jack.

NORE:

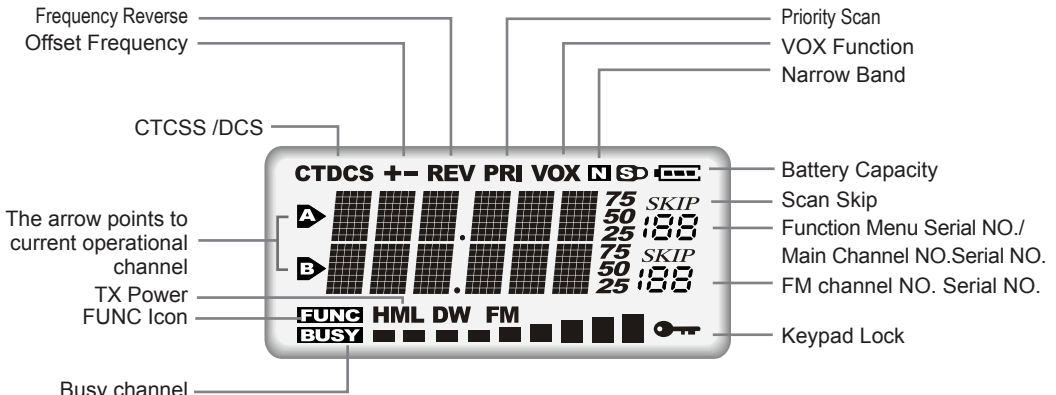
1. **Do cover the the MIC-SP jack to keep transceiver waterproof.**
2. **The transceiver is not completely waterproof while using the Speaker/Microphone.**



○ GETTING ACQUAINTED

LCD Display

On LCD display screen,you will see various icons which stand for the selected functions and sometimes you may forget the meaning of them.Here you will find the following table extremely useful.



NOTE:

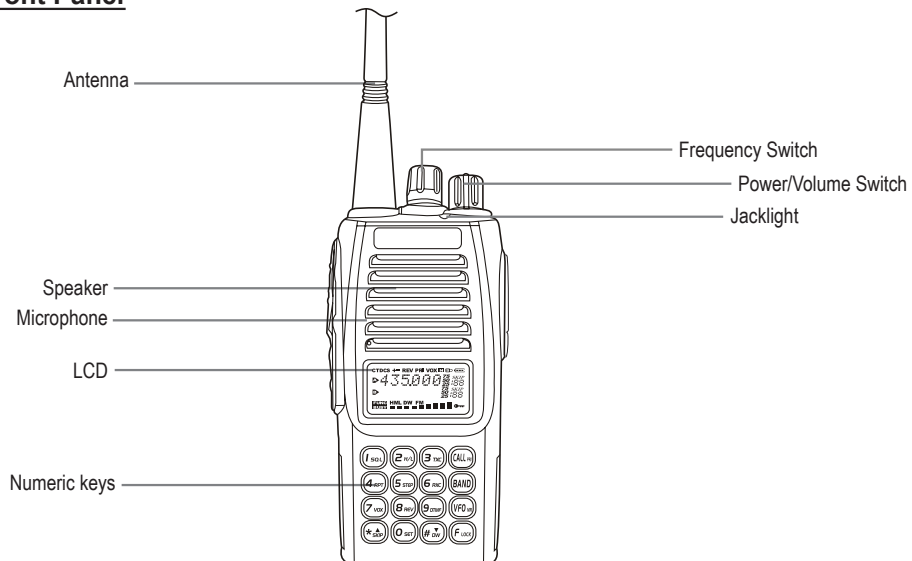
Battery capacity indicator(full)

Battery capacity remnant

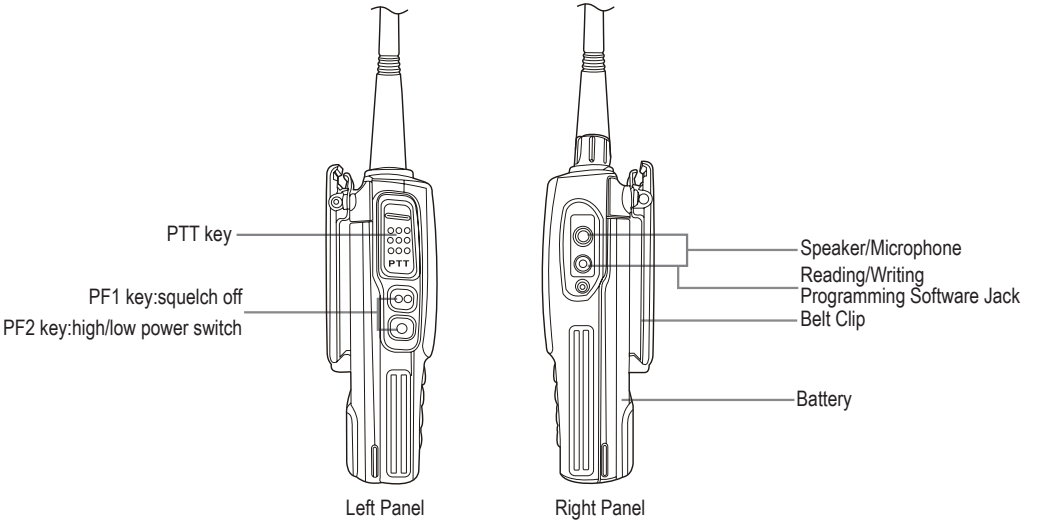
No power,replace battery pack or charge battery

Real time display receiving signal strength/Power Indicator

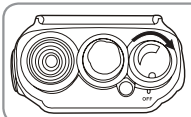
Front Panel


Antenna
Frequency Switch
Power/Volume Switch
Jacklight
Speaker
Microphone
LCD
Numeric keys

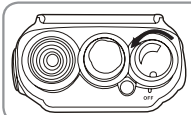
Side Panel


PTT key
PF1 key:squelch off
PF2 key:high/low power switch
PTT
Left Panel
Speaker/Microphone
Reading/Writing
Programming Software Jack
Belt Clip
Battery
Right Panel

Turn on/off Transciver

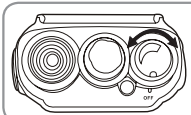


Under power-off state ,please turn **(POWER)/(VOLUME)** clockwise until beeping and current signal display on LCD,indicate turn on the transceiver.



Under power-on state ,please turn **(POWER)/(VOLUME)** anticlockwise until beeping "KADA" indicate turn off the transceiver.

Adjusting Volume



Under power-on state turn **(POWER)/(VOLUME)** to adjust volume .Colockwise-up anticolockwise-down;You could press the programmed as squelch off key to monitor the current volume.

NOTE

You could press **[PF1]** mintor key to control the background volume.Meanwhile turn **(POWER)/(VOLUME)** to adjust volume .The volume will be adjusted more correctly when communicate with other party.

○ BASIC OPERATIONS

Operating mode switch

In standby state,press (VFO) Key to exchange between frequency mode(**VFO**) with channel mode.

Channel selection

Under channel mode/FM mode, turn band switch or press (*SKIP) key/ (#SW) key could get the channel you want:turn band switch clockwise or press (*SKIP) key turn to down channel.Anticlockwise or press (#SW) key turn to up channel.

NOTE

If there are empty channels in channels , when adjustment it will skip empty channel to next channel.

Prority Channel

In standby state.press (CALL) key to set the current channel as priority .It shows "**PRI**" on LCD.

Prority Channel Setup

1. In standby state,press (VFO) key to turn walkie talkie to channel mode.

2. Turn the band switch or press (*SKIP) key/ (#SW) key to choose channel you want.

3. press (F LOCK) key ,it shows **FUNC** on LCD and then press (CALL) ,it shows "**PRI**" on LCD.The current channel is the priority channel .

Frequency adjustment

Under VFO mode,turn band switch or press (*▲ SCAN) key/ (#▼ DW) key could get the frequency you want:turn band switch clockwise or press (*▲ SCAN) key increase the frequcncy.Anticlockwise or press (#▼ DW) key decrease frequency.Every trun /press can add or reduce stepping value.This product have 5k、6.25k、10k、12.5k and 25k in total 5 for option.

Frequency input by keypad

Under Main Channel frequency mode or FM radio frequency mode, this function is valid. Now you can directly enter frequency through numeric keys.

1. When your transceiver is under Frequency + Channel mode, please press to switch to VFO.

NOTE: When the transceiver is under Frequency+Channel mode, it shows current channel number on the right of main frequency.

2. Enter the desired frequency by numeric keys.

NOTE: The frequency input of main channel or FM radio is relevant to the stepping and transceiver frequency scope. If frequency setup is beyond scope or not matching with step size, the input is unavailable. Under the FM radio mode, the frequency step size input by numeric keys is 100K.

Channels input by keypad

Under channel mode, you can switch to the desired channel you want by entering three numbers (000-199). If the entered channel is not in the edited range of transceiver, the transceiver will make a beep to prompt you that input is wrong and then return to current channel. For example, entering 000 is as the first channel, then entering 030 as the 30th channel and entering 125 as the 125th channel.

BASIC OPERATIONS

Squelch off /Momentary Squelch off

While side key **[PF1]** is setup for Squelch Off Momentary / Squelch Off function.You can monitor the weaker signal that is hard to hear by pressing this key.

1. Squelch Off Momentary: Pressing and holding [**PF1]** key, squelch circuit is not mute, release this key to make squelch circuit turn to mute.
2. Squelch Off: Press **[PF1]** key once, squelch circuit is not mute, but you can hear the back-ground noise. Press the key again to make squelch circuit turn to mute.

Receiving

You can hear the transmission party's calling when the channel you are operation is called and the LCD light turn green. **BUSY** icon and signal strength display on LCD ,you could hear the transmitting calling.

NOTE: When your transceiver is setup of higher squelch level, you may not receive this calling. If current channel is programming of decode signaling, only the same signaling call can be heard but not other calls. (Please refer to the signaling relations)

Transmitting

Before transmitting, it is recommended to monitor the channel you are using to ensure it is not busy by pressing and holding **[PF1]** side key.And then keep press PTT button and start talking at about 2 inches from the speaker hole.Speak in normal tone to get the best acoustic fidelity.

NOTE: Press PTT,it is transmitting when LED light is on,Release PTT to receive signal.

Side key [PF1] function introduction

1. Squelch Off: Press **[PF1]** and hold(over 2.5 seconds),the silent circuit not squelch,and then release ,the circuit will keep on not slience ,and press **[PF1]**,the circuit will keep silence.
2. Squelch Off Momentary: press **[PF1]**key (Don't hold long time or it will come into squelch off),the squelch will not working and can hear background voice,relsase the squelch is on.
3. Press **[PTT]** and then press [**PF1]** to send elected tone-pulse signal frequency(eg. 1750Hz/800HZ) .

Side key [PF2] function introduction

1. .High and low power switch;In standby state, press **[PF2]** key untill voice beeping of "DU" and "**L**" on LCD, the channel will transmit with low power .Repeat above operation ,when "**H**" on LCD,the channel will transmit with high power .
2. Press **[PTT]** and hold and then press **[PF2]** key can send selected DTMF singal.
3. Press **[PF2]** key to starting up can achieve the following function.

(1)Transmit frequency setup

1. Press **[PF2]** to starting up can come into setup mode
2. Turn band switch or press (*SKIP) key/ (#DW) key and choose "1" funtion key ,LED on "**T-FREQ**"
3. press (0 SET) key goes into function setup ,arrow turn to setup items,LCD show"------"
4. input frequency by numeric key .write in both start and end frequency
5. Press (F LOCK) key or **[PTT]** key to confirm and exit.

NOTE: Setup tramsiting frequency need to open the revise frequency function by software first.

(2) Receiving frequency setup:

1. press **[PF2]** key and hold to starting up and enter the setup mode.
2. Turn band switch or press (*) key/ (#) key and choose "2" funtion key ,LED on "**R-FREQ**";
3. press (O) key goes into function setup ,arrow turn to set items,LCD show"------";
4. Input frequency by numeric key.Just write in both start and end frequency;
5. Press (F) key or **[PTT]** key to confirm and exit.

NOTE: Setup receiving frequency need to open the revise frequency function by software first.

(3)Reset setup

1. press **[PF2]**key and hold to starting up and enter the setup mode;
2. Turn band switch or press (*) key/ (#) key and choose "3" funtion key ,"**RESET**" on LED;
3. press (O) key goes into function setup ,arrow turn to set items and the "**RESET**" Flashing;
4. Turn band switch or press (*) key/ (#) key to choose the items you want to set;
   A. After choose "**VFO**",press **[PTT]** key can make channel mode back to factory default;
   B. After choose "**MR**",press **[PTT]** key can make channel &function back to factory default;
   C. After choose "**ALL**",press **[PTT]** key can make all channels & functions back to factory default;

(4)Copy wired

1. press **[PF2]** key can come into setup mode;

2. Turn band switch or press (* SCAN) key/ (# DW) key and choose "4" function key ,"**CLONE**" on LCD;

3. Press **[PTT]** key can come into copy wired state.

NOTE:if use this function the DATA of 2 sets walkie talkie need to connect through copy wired.

Scan function

In standby state,press (* SCAN) key/ (# DW) key and hold ,until voice beeding of "DU",the scan funtion is seting .Press **[PTT]** key / (F LOCK) key to exit scan.

Turn on/off radio function

1. In standby state press (BAND) key,turn to FM mode (What arrow turn to is operational channel), in this state could operate FM radio but still keep silence;

2. And press (CALL) key ,until "**FM**" on LCD,can listen to the radio ,continue press (CALL) key ,will come back to silence;

3. And press (BAND) key,turn FM radio to two war radioWhat arrow turn to is operational channel).

◦ BASIC OPERATIONS

Delete/Add FM Radio

1. In standby state,press (BAND) key and hold until "**MODE**" show on LCD.

2. Turn band switch and Delete/Add FM Radio:

UHF/FM: Add FM Radio

UHF: Delete FM Radio

3. Press **[PTT]** key/ (F LOCK) key to confirm and exit.

FM radio scan

Under FM mode,press (* SCAN) key/ (# DW) Key and hold until beeping "DU" the FM radio scan is starting.When scan the radio station it will stop 5 second and continue to scan.In the scan state,press **[PTT]** key / (F LOCK) key to exit scan.

Frequency copy

under channel mode,press (VFO M) key and hold until walkie talkie beeping "DU" ,continue pressing (VFO M) key to turn to VFO mode. Namely, momery channel to the VFO mode is being.

Editing Channels

1. Walkie talkie under VFO mode/FM radio VFO mode,input the frequency you want and then do relevant setup;
2. After press (F LOCK) key **FUNC** show on LCD,then press (VFO M/F) key,the LCD display the channel NO. icon;
3. Turn channel switch or press (* SCAN) key/ (# DW) key,to choose the momery channel NO.you want;
4. Press (VFO M/F) key ,until transceiver voice beeping of "DU",namely,the momey channel mode is being.

Delecting Channels

1. In standby state ,press (F LOCK) key , **FUNC** show on LCD and then press (BAND) key,the LCD display momery NO. icon ;
2. Turn channel switch or press (* SCAN) key/ (# DW) key,to choose the momery channel NO.you want to delete;
3. Press (BAND) key ,until "**DEL**" on LCD.And then press (BAND) key, transceiver voice beeping of "DU",namely,the channel is being Deleted

Copying Channels

1. Under walkie talkie channel mode,choose the channel you want;
2. After press (F LOCK) key **FUNC** show on LCD,then press (VFO M/F) key,the LCD display the channel NO. icon;
3. Turn channel switch or press (* SCAN) key/ (# DW) key,to choose the momery channel NO.you want ;
4. Press (VFO M/F) key ,until transceiver voice beeping of "DU",namely,the momey channel mode is being.

Offset frequency setup

1. Under walkie talkie VFO mode,input the frequency you want and then do relevant setup;
2. .After press (F LOCK) key **FUNC** show on LCD,then press (VFO M/F) key,the LCD display the channel NO. icon;

○ SHORTCUT FUNCTION SETUP

3. Turn channel switch or press (* SKIP) key/ (# DW) key,to choose the offset frequency channel NO.you want ;

4. Press **[PTT]** key and then press (V/FO) key until transceiver voice beeping of "DU",namely,the offset frequency channel mode is being

"**+**"icon display on LCD :namely transmiting frequency is higher than receiving

"**-**"icon display on LCD :namely transmiting frequency is lower than receiving

Squelch levels setup

The function is for seting the receiving radio signal.When signal reach certain value you could hear the sender calling ,if not the radio will keep silence .

1. In standby state,press (F LOCK) key ,**FUNC** display on LCD and then press (1 SQU) key ,"**SQL** " display on LCD.;

2. Turn band switch or press (* SKIP) key/ (# DW) key to choose the squelch levels you want ;

"00"-"09" 10 levels of squelch in total to choose ,"00" as min setup value (Normally open).

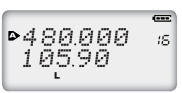
3. Press **[PTT]** key / (F LOCK) key to exit.

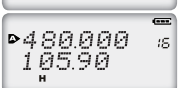
High and low power setup

After pressing (F LOCK) key ,the LCD display **FUNC** and then press (2 PWR) key to choose High/low power.

"**L**"icon display on LCD :namely transmiting frequency is LOW

"**H**"icon display on LCD :namely transmiting frequency is high





CTCSS/DCS Encode Setup

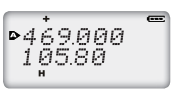
1. In standby state,press (F LOCK) key ,**FUNC** display on LCD and then press (3 TXC) key ,"**TX-CO**" display on LCD;
2. Press (3 TXC) key to choose CTCSS ,DCS or OFF .When DCS signaling is selected ,press (9 DTMF) to choose DCS positive or inverse code;
3. Turn channel switch or press (* SCAN) / (# DW) key to choose the desired CTCSS/DCS encode singaling

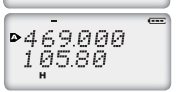
   CTCSS:67HZ-254.1HZ,51 groups in total.

   DCS :023N-7541 groups in total."N"stands for positive code,"I" stands for inverse code**.**
4. press **[PTT]**/ (F LOCK) key to exit.

Offset frequency direction Setup

In standby state,press (F LOCK) key ,**FUNC** display on LCD and then press (4 RPT) key to choose the desired offset frequency direction.





1. "**+**"icon display on LCD :namely transmiting frequency is higher than receiving.When reverse frequency is opened,the receiving frequency is higher than transmiting .
2. "**-**"icon display on LCD :namely transmiting frequency is lower than receiving.When reverse frequency is opened,the receiving frequency is lower than transmiting .
3. Nothing show :the Offset frequency direction is closed .

○ SHORTCUT FUNCTION SETUP

Frequency Step size setup

Only under frequency mode,frequency setp size is valid. frequency input or scan will be connected with the frequency setp size.

1. .In standby state,press (F LOCK) key , **FUNC** display on LCD and then press (5 STEP) key."**STEP**" display on LCD;

2. Turn channel switch or press (* SKIP) / (# DW) key to choose the desired frequency.
It has 5k,6.25k,10k,12.5k,25k setup size frequency to choose from.

3. Press **[PTT]** key / (F LOCK) key to exit.

CTCSS/DCS Decode Setup

1. In standby state,press (F LOCK) key , **FUNC** display on LCD and then press (6 REC) key."**RX-CO**" display on LCD;

2. Press (6 REC) key and hold to choose CTSS、DCS or OFF.Under DCS, press (9 DTMF) key could change between positive code and inverse code;

3. Turn channel switch or press (* SKIP) / (# DW) key to choose the desired CTCSS/DCS encode singaling .

CTCSS:62.5HZ-254.1HZ,51 groups in total.

DCS :023N-754I,208 groups in total."N"stands for positive code,"I" stands for inverse code.

4. Press **[PTT]** key / (F LOCK) key to exit.

VOX On/Off

After enabling this function,no need to press **[PTT]** key ,you can directly start transmitting by voice.

1. In standby state,press (F LOCK) key , **FUNC** display on LCD and then press (7 VOX) key the VOX function to be on/off;

2. "**VOX**" display on LCD.Namely ,the VOX function is on;

3. "**VOX**" disappear on LCD.Namely ,the VOX function is off .

Frequency reverse

When the frequency reversion function.The transmitting frequency and receiving frequency are interchanged, namely, receiving frequency switches to transmitting frequency while transmitting frequency switches to receiving frequency. If CTCSS / DCS signaling is set, it will also interchange.

1. In standby state,press (F LOCK) key , **FUNC** display on LCD and then press (9 REV) key to turn on/off frequency reversion function.;

2. When it display"**REV**" icon on screen, it means that current channel start frequency reversion function;

3. When "**REV**" icon disappear on screen, it means that current channel close frequency reversion function.

DTMF Code Selective

This function only choose to prestore and send the DTMF code

1. In standby state,press (F LOCK) key , **FUNC** display on LCD and then press (5 DTMF) key the the desired group and DTMF data on LCD.If don't edit DTMF data， only display current group number;

2. Press (* SCAN) key or (# DW) key to choose the desired group and DTMF data. If this group don't edit DTMF data, it will display current group number 、 NEW and "__".

3. When current group display "__",omes into DTMF edit state.Now you can enter the DTMF editing data you need by keypad.

4. Press key **[PTT]** to send and save the selected DTMF signal.

○ SHORTCUT FUNCTION SETUP

DTMF Code Transmitting

1. Press and hold **[PTT]** key, then enter the desired number by key;

2. DTMF code transmitting

A. In standby state,press (F LOCK) key , **FUNC** display on LCD and then press (9 DTMF) key display the desired group and DTMF data;

B. Turn channel switch or press (* SCAN) / (# DIV) key to choose the desired DTMF group;

C. Press key **[PTT]** to send selected DTMF group data;

Remotely kill/waken

Sending special code (the remotely kill code of the other party), it will make the other party transceiver of all keys and performance temporarily completely unavailable. Namely, the other party transceiver has been remotely kill. When it is remotely kill, "**KILL**" is showed on LCD.

Send the other party of remotely kill code + "#" to waken. For example, if "2267" is remotely kill code, sending "2267#" can waken transceiver. When wakening, "**WAKEN**" is showed on LCD.

NOTE: Remotely kill code should be edited in the programming software.14 digits are the maximum.

Remotely stun/waken

Sending special code (the remotely stun code of the other party), it will make the other party transceiver of all keys and performance temporarily completely unavailable except for receiving. Namely, the other party transceiver has been remotely stun. When it is remotely stun, "**STUN**" is showed on LCD. Send the other party of remotely stun code + "#" to waken. For example, if "2268"is remotely stun code, sending "2268#" can waken transceiver.

When wakening, "**WAKEN**" is showed on LCD.

NOTE: Remotely stun code should be edited in the programming software.14digits are the maximum.

ATTENTION: When remotely kill or remotely stun is wakened, transceiver returns to normal operation.

Channels scan skip

Under Channel mode, after pressing (F LOCK) key **FUNC** display on LCD and then press (* SKIP) key to set the current channel as channel scan skip. Repeat the above operations to cancel channel scan skip.

1. '**SKIP**' display on LCD means that current channel will not be scanned;

2. No displaying '**SKIP**' means that current channel will be scanned.

Frequency/channels scan

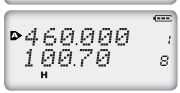
Under standby mode, pressing (* SKIP) / (# DW) key and hold on to begin frequency scan or channel scan

1. frequency scan

Under VFO mode, frequency scan is available. This function is used for monitoring signal of various communication frequency points by transceiver . Press **[PTT]** / (F LOCK) key to exit.

2. Channel Scan

Under channel mode, this function is used for monitoring signal of various channels in this mode. Press **[PTT]** / (F LOCK) key to exit.



○ SHORTCUT FUNCTION SETUP

NOTE

- ▼ Frequency scan is of all bangs scan.When scanning ,it can uo as your setpping setting
- ▼ When channel scanning,the skipped channel is not in the line of scan.Scan up as per channel no. (please refer to channel scan skip)
- ▼ Frequency/ channel scan direction by pressing (*) / (#) key .When finding a matching carrier wave and signaling.The transceiver will be stop and then going on scan.(please refer to channel scan skip)

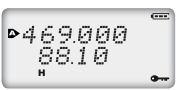
Switch Between VFO and Frequency +Channel Mode

1.In standby state,press (F) key , **FUNC** display on LCD and then press (#) key to come into VFO and Frequency +Channel Mode.The forequency on the LCD is the receiving frequency.

Keypad Lock

In order to prevent wrong operation, you can make use of keypad lock function of this transceiver. Under standby state, after pressing (F) key, until beeping "DU" and "🔑"icon appear on LCD display key for 2 seconds to start key lock function. Repeat the above operations to cancel key lock function.

NOTE: When keypad is locked, only PTT / PF1 key are available, other keys(including band switch) are unavailable.



○ FUNCTION MENU SETUP

Wintec

1. After pressing (F LOCK) key, the LCD displays **FUNC** and then press (0 SET) key to enter function menu;
2. Turn band switch or press (* SCAN) / (# DW) key to choose the desired function to be set;
3. Press (0 SET) key to enter into function menu setup,the setup value display on LCD;
4. Turn band switch Press (* SCAN) / (# DW) key to choose the desired contents to be set;
5. press (0 SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

Squelch Level Setup

The function is for seting the receiving radio signal.When signal reach certain value you could hear the sender calling ,if not the radio will keep silence .

1. In standby state,press (F LOCK) key , **FUNC** display on LCD and then press (0 SET) key to enter function menu;
2. Turn band switch or press (* SCAN) / (# DW) key to choose No.1 function item. It shows "**SQL**" on LCD;
3. Press (0 SET) key to enter into function menu setup,the setup value display on LCD;
4. Turn band switch Press (* SCAN) / (# DW) key to choose the desired squelch level;
   This items have "00"-"09" 10 levels of squelch in total to choose.
5. press (0 SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

High and low power setup

1. .After pressing (F LOCK) key, the LCD displays **FUNC** and then press (0 SET) key to enter function menu;
2. Turn band switch or press (* SCAN) / (# DW) key to choose No.2 function item. It shows "**POWER**" on LCD;

FUNCTION MENU SETUP

3. Press (0 SET) key to enter into function menu setup,the setup value display on LCD;
4. Turn band switch Press (* SKIP) / (# DW) key to choose the desired power;
   HIGH :namely transmiting frequency is high
   LOW :namely transmiting frequency is low
5. press (0 SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

CTCSS/DCS encode setup

1. After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (0 SET) key to enter into function menu;
2. Turn band switch or press (* SKIP) / (# DW) key to choose No.3 function item. It shows "**TX-CO**" on LCD;
3. Press (0 SET) key to enter into function menu setup,the setup value display on LCD;
4. Turn band switch or press (* SKIP) / (# DW) key to choose CTSS、DCS or OFF.Under DCS, press (9 MW) key could change between positive code and inverse code;
5. Press (0 SET) key to enter into function menu setup,the "**TXCODE**" display on LCD;
6. Turn band switch Press (* SKIP) / (# DW) key to choose the desired CTCSS/DCS code;
   CTCSS:62.5-254.1HZ,51 groups in total.
   DCS :023N-754I,208 groups in total."N"stands for positive code,"I" stands for inverse code.
7. press (0 SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

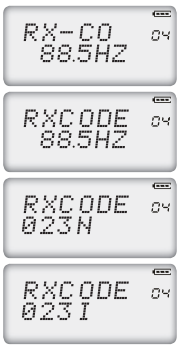
CTCSS/DCS decode setup

If enable this function,you can't hear the other party's calling at the same frequency.

1. After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (0 SET) key to enter into function menu.;
2. Turn band switch or press (* SCAN) / (# DW) key to choose No.4 function item. It shows "**RX-CO**" on LCD;
3. Press (0 SET) key to enter into function menu setup,the setup value display on LCD;
4. Turn band switch or press (* SCAN) / (# DW) key to choose CTSS、DCS or OFF.Under DCS, press (9 DTMF) key could change between positive code and inverse code;
5. Press (0 SET) key to enter into function menu setup,the "**RXCODE**" display on LCD;
6. Turn band switch Press (* SCAN) / (# DW) key to choose the desired CTCSS/DCS code;

   CTCSS:62.5-254.1HZ,51 groups in total.

   DCS :023N-754I,208 groups in total."N"stands for positive code,"I" stands for inverse code.
7. press (0 SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.



Offset frequency direction Setup

1. After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (0 SET) key to enter into function menu;
2. Turn band switch or press (* SCAN) / (# DW) key to choose No.5 function item. It shows "PRT" on LCD;
3. Press (0 SET) key to enter into function menu setup,the setup value display on LCD;
4. Turn band switch Press (* SCAN) / (# DW) key to choose the desired Offset frequency direction;

"+"icon display on LCD : namely transmiting frequency is higher than receiving.When reverse frequency is opened,the receiving frequency is higher than transmiting .

"-"icon display on LCD : namely transmiting frequency is lower than receiving.When reverse frequency is opened,the receiving frequency is lower than transmiting .

Nothing show : the Offset frequency direction is closed .

5. press (O SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

Frequency Step size setup

Under frequency mode (VFO), only Stepping function is available, while frequency input and frequency scan are both restricted by stepping.

1. After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (O SET) key to enter into function menu.

2. Turn band switch or press (* SKIP ▲) / (# DW ▼) key to choose No.6 function item. It shows "**STEP**" on LCD;

3. Press (O SET) key to enter into function menu setup,the setup value display on LCD;

4. Turn band switch Press (* SKIP ▲) / (# DW ▼) key to choose the desired Frequency Step size ;

This produc thas 5k,6.25k,10k,12.5k,25k five different setup size frequency to choose from.

5. press (O SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

Frequency reverse

Whencurrent channel open the frequency reversion function. Now the transmitting frequency and receiving frequency are interchanged, namely, receiving frequency switches to transmitting frequency while transmitting frequency switches to receiving

frequency. If CTCSS / DCS signaling is set, it will also interchange.

1. After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (0 SET) key to enter into function menu;

2. Turn band switch or press (* SCAN) / (# DW) key to choose No.7 function item. It shows "**REV**" on LCD;

3. Press (0 SET) key to enter into function menu setup,the setup value display on LCD;

4. Turn band switch Press (* SCAN) / (# DW) key to choose the desired stepup;

ON: Turn on Frequency reverse function

OFF: Turn off Frequency reverse function

5. press (0 SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

Voice operated Transmission (VOX) Setup

After enabling this function, no need to press **[PTT]** key, you can directly start transmitting by voice

1. After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (0 SET) key to enter into function menu;

2. Turn band switch or press (* SCAN) / (# DW) key to choose No.8 function item. It shows "**VOX**" on LCD;

3. Press (0 SET) key to enter into function menu setup,the setup value display on LCD;

4. Turn band switch Press (* SCAN) / (# DW) key to choose the desired stepup;

ON: Turn on Voice operated Transmission function

OFF: Turn off Voice operated Transmission function

5. press (0 SET) key to return to upward menu. Press **[PTT]** or **FUNC** key to confirm and exit .

FUNCTION MENU SETUP

VOX Level Setup

The function is for seting the receiving radio voice.When the level is higher the voice is much big,opposite the voice will much small.

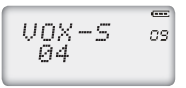
1. 1.After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (SET) key to enter into function menu;

2. Turn band switch or press (* SKIP) / (# DW) key to choose No.09 function item. It shows "**VOX-S**" on LCD;

3. Press (SET) key to enter into function menu setup,the setup value display on LCD;

4. Turn band switch Press (* SKIP) / (# DW) key to choose the desired stepup level;
The vox level of transceiver has1-9 levels.9 levels in total to choose from .

5. press (SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.



VOX Delay Setup

When the transceiver sends the calling by VOX and returns with receiving mode instantly. If that the bottom of calling may not be transmitted correctly. To avoid this problem, you can set suitable delay time.

1. After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (SET) key to enter into function menu;

2. Turn band switch or press (* SKIP) / (# DW) key to choose No.10 function item. It shows "**VOX-D**" on LCD;

3. Press (SET) key to enter into function menu setup,the setup value display on LCD;

4. Turn band switch Press (* SKIP) / (# DW) key to choose the desired stepup level;
0.3s-3.0S:the vox delay setup of transceiver has 28 levels in total to choose from .

5. press (SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

Non-signaling Tail Tone Elimination

1. After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (0 SET) key to enter into function menu;

2. Turn band switch or press (* SKIP▲) / (# DW▼) key to choose No.11 function item. It shows "**ROG-T**" on LCD;

3. Press (0 SET) key to enter into function menu setup,the setup value display on LCD;

4. Turn band switch Press (* SKIP▲) / (# DW▼) key to choose the desired stepup level;

ON: Turn on Non-signaling Tail Tone Elimination function

OFF: Turn off Non-signaling Tail Tone Elimination function

5. .press (0 SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

PTT Key Voice Prompt

After enabling this function, when the users press **[PTT]** , transceiver will infom by voice prompting.

1. After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (0 SET) key to enter into function menu;

2. Turn band switch or press (* SKIP▲) / (# DW▼) key to choose No.12 function item. It shows "**PTT BP**" on LCD;

3. Press (0 SET) key to enter into function menu setup,the setup value display on LCD;

4. Turn band switch Press (* SKIP▲) / (# DW▼) key to choose the desired stepup level;

ON: Turn on PTT key Voice prompt function

OFF: Turn off PTT key Voice prompt function

5. press (0 SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

FUNCTION MENU SETUP

Frequency Reverse Setup

This function works to wake up repeater. Press **[PTT]** and then press **[PF1]** to send the desired offset frequency .

1. After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (O SET) key to enter into function menu;
2. Turn band switch or press (* SCP) / (# DW) key to choose No.13 function item. It shows "**PTT+A**" on LCD;
3. Press (O SET) key to enter into function menu setup,the setup value display on LCD;
4. Turn band switch Press (* SCP) / (# DW) key to choose the desired stepup level
   1750MHZ: Offset frequency Setup value 1750MHZ
   800MHZ: Offset frequency Setup value 800MHZ
5. press (O SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

The Automatic Shutdown Time Setup

1. After pressing (F LOCK) key , the top left corner of LCD displays **FUNC** and then press (O SET) key to enter into function menu;
2. Turn band switch or press (* SCP) / (# DW) key to choose No.14 function item. It shows "**APO**" on LCD;
3. Press (O SET) key to enter into function menu setup,the setup value display on LCD;
4. Turn band switch Press (* SCP) / (# DW) key to choose the desired stepup time
   OFF:close automatic shutdown time function
   30MIN:after 30 mins automatic shutdown
   60MIN:after 60 mins automatic shutdown
   120MIN:after 120 mins automatic shutdown

240MIN:after 240 mins automatic shutdown

5. press (O SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit.

Vox Beep Setup

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (O SET) key to enter into function menu;

2. Turn band switch or Press (* SKIP) / (# DW) key to choose NO.15 function item .It shows "**KEY BP**" on LCD;

3. Press (O SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn channel switch or press (* SKIP) / (# DW) key to choose the desired setup;

ON:VOX beeping is enabled

OFF:VOX beeping is disabled

5. Press (O SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

LCD Backlight Setup

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (O SET) key to enter into function menu;

2. Turn band switch or Press (* SKIP) / (# DW) key to choose NO.16 function item .It shows "**LAMP**" on LCD;

3. Press (O SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn channel switch or press (* SKIP) / (# DW) key to choose the desired setup

AUTO:after enabling the backlight,it will delay a period and then automatically quench

ON: Normally open

OFF: Normally close

5. Press (SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup .

FM Radio Return Time setup

This function works to setup the time after receiving or tramitting to return FM radio. (only when open the FM radio the function is value)

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (SET) key to enter into function menu;

2. Turn band switch or Press (* SKIP) / (# DW) key to choose NO.17 function item .It shows "**FM RET**" on LCD;

3. Press (SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn channel switch or press (* SKIP) / (# DW) key to choose the desired setup;

3S:3 seconds comeback to FM radio after the signal disappear or loosen the [PTT] key.

5S:5 seconds comeback to FM radio after the signal disappear or loosen the [PTT] key.

8S:8 seconds comeback to FM radio after the signal disappear or loosen the [PTT] key.

OFF: comeback to FM radio at once after the signal disappear or loosen the [PTT] key.

5. press (SET) key to return to upward menu. Press **[PTT]** or (F LOCK) key to confirm and exit .

Battery Save Setup

The transceiver can be set for saving battery to extend standby time .When receiving the carrier wave or doing the keypad operations,,it will instantly exit battery saving mode and come into normal working mode .

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (SET) key to enter into function menu;

○ FUNCTION MENU SETUP

2. Turn band switch or Press (*SAVE) / (#SW) key to choose NO.18 function item .It shows "**SAVE**" on LCD;

3. Press (SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn channel switch or press (*SAVE) / (#SW) key to choose the desired setup;

OFF: Battery saving is disabled

1:2: The ratio between normal working state and battery saving mode as 1:2

1:3: The ratio between normal working state and battery saving mode as 1:3

1:5: The ratio between normal working state and battery saving mode as 1:5

1:8: The ratio between normal working state and battery saving mode as 1:8

AUTO: automatically adjust the time of saving battery

5. Press (SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

Scan Dwell Time Setup

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (SET) key to enter into function menu;

2. Turn band switch or Press (*SAVE) / (#SW) key to choose NO.19 function item .It shows "**SCAN**" on LCD;

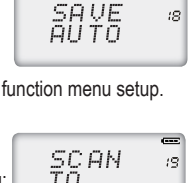
3. Press (SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn channel switch or press (*SAVE) / (#SW) key to choose the desired scan dwell time setup;

TO: Dwell 5 second after scan the match signal and then continue to scan

CO: Dwell 2 second until signal disappear after scan the match signal and then continue to scan

SE:stop scan after scan the match signal



5. Press (SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

FUNCTION MENU SETUP

Time-out-Timer

The purpose of Time-out-timer is to restrict transceiver for continuous long-term transmission. When the continuous transmission time is beyond the due time, transceiver is forced to stop transmitting and make a sound of beeping.

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (0 SET) key to enter into function menu;
2. Turn band switch or Press (* SCAN) / (# DW) key to choose NO.20 function item .It shows " **TOT**" on LCD;
3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;
4. Turn band switch or press (* SCAN) / (# DW) key to choose the desired setup;

   OFF: Time-out-Timer is disabled

   60S: The setup ime of Time-out-Timer is 60 seconds

   120S: The setup ime of Time-out-Timer is 120 seconds

   180S: The setup ime of Time-out-Timer is 180 seconds
5. Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

Offset Frequency Setup

This function works through repeater. Namely, repeater receives accessing signal by one kind of frequency and then transmits in the other kind of frequency. The offset between these two frequencies is called offset frequency.

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (0 SET) key to enter into function menu;
2. Turn band switch or Press (* SCAN) / (# DW) key to choose NO.21 function item .It shows " **OFFSET**" on LCD;
3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn band switch or press (*SKIP) / (#DW) key to choose the desired Offset Frequency ;
   Frequency range:0-19.995MHZ;
5. Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

DTMF Group Code Setup

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (0 SET) key to enter into function menu;
2. Turn band switch or Press (*SKIP) / (#DW) key to choose NO.22 function item .It shows " **DTMF G**" on LCD;
3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;
4. Turn band switch or press (*SKIP) / (#DW) key to choose the desired DTMF code group;
   01-16,total 16 group DTMF code to choose .
5. Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

DTMF Turn On Time setup

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (0 SET) key to enter into function menu
2. Turn band switch or Press (*SKIP) / (#DW) key to choose NO.23 function item .It shows " **DTMF T**" on LCD;
3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;
4. Turn band switch or press (*SKIP) / (#DW) key to choose the desired DTMF enable time;
   This item has 50MS、100MS/200MS/300MS/500MS & 800MS six turn on time to choose;
5. Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup .

FUNCTION MENU SETUP

DTMF Turn Off Time setup

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (0 SET) key to enter into function menu;

2. Turn band switch or Press (* SCAN) / (# DW) key to choose NO.24 function item .It shows "**DTMF S**" on LCD;

3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn band switch or press (* SCAN) / (# DW) key to choose the desired DTMF disable time;
This item has 50MS、100MS/200MS/300MS/500MS & 800MS six turn off time to choose.

5. Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

Noise Reduction Function Setup

This item has cut-through,normal and strong 3 models for noise reduction .User could choose the desired models as the surrounding.

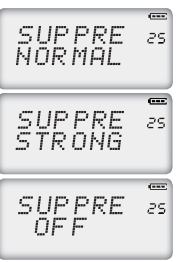
1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (0 SET) key to enter into function menu;

2. Turn band switch or Press (* SCAN) / (# DW) key to choose NO.25 function item .It shows " **SUPPRE**" on LCD;

3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn band switch or press (* SCAN) / (# DW) key to choose the desired setup;
NORMAL: Turn on the normal noise reduction function
STRONG: Turn on the strong noise reduction function
OFF:close the noise reduction function

5. Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup .



Busy Channel Lock

Enable BCL, carrier wave lockout, transmitting is prohibited when current channel receives a matching carrier wave. BCLO is to disable transmitting while RX signal is received. Once the channel is busy and you press **[PTT]**, the radio will beep as warning and get back to receiving.

1. After pressing (F LOCK) key, **FUNC** display on LCD and then press (0 SET) key to enter into function menu;

2. Turn band switch or Press (* SCAN) / (# DW) key to choose NO.26 function item .It shows " **BCLO**" on LCD;

3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn band switch or press (* SCAN) / (# DW) key to choose the desired setup;

REPEAT:transmitting is prohibited when current channel receives a matching carrier wave with dis-matching CTCSS/DCS.

BUSY:transmitting is prohibited when current channel receives a matching carrier wave.

OFF: No matter what situtation can transmitting **.**

5. .Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

Display Mode Setup

There are three kinds of display modes to be optional.

1. After pressing (F LOCK) key, **FUNC** display on LCD and then press (0 SET) key to enter into function menu;

2. Turn band switch or Press (* SCAN) / (# DW) key to choose NO.27 function item .It shows " **NAME**" on LCD;

3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn band switch or press (* SCAN) / (# DW) key to choose the desired setup;

○ FUNCTION MENU SETUP

FREQ: in storage mode display Channel+Name Tag mode ;

NAME: in storage mode if the current channel mode has edit the name ,display the channel name tag + channel NO.

CH: The product only could work in channel mode

5. Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

Editing Channel Name

1. After pressing (F LOCK) key, **FUNC** display on LCD and then press (0 SET) key to enter into function menu;

2. Turn band switch or Press (* SCAN) / (# DW) key to choose NO.28 function item .It shows " **NAMEWR**" on LCD;

3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn band switch or press (* SCAN) / (# DW) key to choose the desired setup;

5. Press (1 SQL) key and check the current character and move the cursor to the next character.Press (4 RPT) key to come back to the up character;

6. Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

NOTE:when the transceiver under (VFO) model ,the option will automatic hidden.

Turn On /Off Optional Signal

The function of optional signal is similar with CTCS/DCS.By the optional signal also have ANI 、PTT、ID、All call、 Group call 、Selective call、Remotely kill、Remotely stun、Remotely waken and so on

1. After pressing (F LOCK) key, **FUNC** display on LCD and then press (0 SET) key to enter into function menu;

2. Turn band switch or Press (* SCAN) / (# DW) key to choose NO.29 function item .It shows " **SGNDEC**" on LCD;

3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;
4. Turn band switch or press (* SKIP) / (# DW) key to choose the desired setup;

DTMF:turn on the optional signal

OFF:turn off the optional signal

5. Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

Signaling Relations Setup

This function could set the calling way.

1. After pressing (F LOCK) key, **FUNC** display on LCD and then press (0 SET) key to enter into function menu;
2. TTurn band switch or Press (* SKIP) / (# DW) key to choose NO.30 function item .It shows " **SIGNAL**" on LCD;

3. Press (0 SET) key to enter into function menu setup,the setup value display on LCD;
4. Turn band switch or press (* SKIP) / (# DW) key to choose the desired setup;

OR:could hear the other side when receiving the match CTCSS/DCS or any other optional signal.

AND:could hear the other side only when receiving the match CTCSS/DCS and optional signal at the same time .

5. Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

Wide/Narrow Band Setup

According to the national conditions of various countries,pls choose the legal band.

FUNCTION MENU SETUP

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (0 SET) key to enter into function menu;
2. Press (* SKIP) / (# DW) key to choose NO.31 function item .It shows "**W/N**" on LCD;
3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;
4. Turn channel switch or press (* SKIP) / (# DW) key to choose the desired setup;

   WIDE: wide band(25K)

   NARROW:narrow band (12.5K)

5. Press (0 SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

Function Icon Dwell Time Setup

After set the function icon dwell time ,when the function icon rest on the LCD ,we could continue setting up the shortcut function.

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (0 SET) key to enter into function menu;
2. Press (* SKIP) / (# DW) key to choose NO.31 function item .It shows "**FTIME**" on LCD;
3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;
4. Turn channel switch or press (* SKIP) / (# DW) key to choose the desired setup;

   FUNC: After setting single shortcut key ,the function icon disappear on the LCD at once.

   1S: After setting single shortcut key ,the function icon stop 1 second and then disappear.

   2S: After setting single shortcut key ,the function icon stop 2 seconds and then disappear.

   3S: After setting single shortcut key ,the function icon stop 3 seconds and then disappear.

ALWAYS:the function icon always display on the LCD.

5. Press (SET) key to come back into function menu setup,press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

Current Battery Voltage Enquiry

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (SET) key to enter into function menu;

2. Press (* SKIP) / (# DW) key to choose NO.33 function item .It shows "**VOLT**" on LCD;

3. The value displaying on the screen is current battery voltage value;

4. press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

Starting Display Setup

This product has three Starting Display modes

1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (SET) key to enter into function menu;

2. Press (* SKIP) / (# DW) key to choose NO.34 function item .It shows "**BOOT**" on LCD;

3. Press (SET) key to enter into function menu setup,the current setup value show on LCD;

4. Turn channel switch or press (* SKIP) / (# DW) key to choose the desired starting display mode;

VOLT: starting display current battery voltage value.

NAME: starting display user-defined character

OFF: starting display nothing

5. Press (0 SET) key or press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

Display Character Defined By User

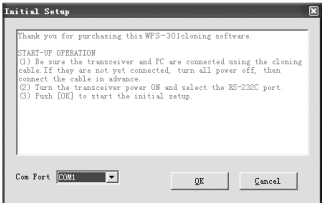
1. After pressing (F LOCK) key ,the LCD display **FUNC** and then press (0 SET) key to enter into function menu;
2. Press (* SCAN) / (# DW) key to choose NO.35 function item .It shows "**BTNAME**" on LCD;
3. Press (0 SET) key to enter into function menu setup,the current setup value show on LCD;
4. Turn channel switch or press (* SCAN) / (# DW) key to choose the desired character;
5. Press (1 SQU) key and check the current character and move the cursor to the next character.Press (4 RPT) key to come back to the up character;
6. Press (0 SET) key or press **[PTT]**/ (F LOCK) key to confirm and exit the function menu setup.

○ PROGRAMMING SOFTWARE STARTING (TAKES WINDOW XP FOR EXAMPLE)

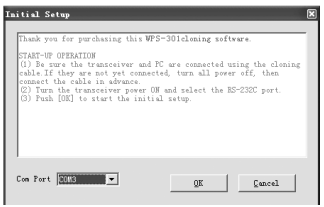
1.Double click “WPS-301 setup.exe” and then go on installing as computer command.
2.Click “START” menu, choose “USB To Comport” in the WPS-301 entry from “ALL PROGRAMS” and click it. Please install USB To Comport drive program as computer command.
3.Please plug PC03 programming cable into USB port in PC device and then connect with transceiver.
4.Double click “WPS-301”shortcut operation or click WPS-301 item which under the starting menu of ALL PROGRAMS
5. choose serial port “COM Port” as per computer command, then click” OK” to start programming software. (It must install software firstly and then insert USB programming cable.

Note:in one individual computer ,user need to choose different USB port number when USB programming cable connected with different USB port.

To program frequency ,power on the transceiver firstly.Do not power on/off the transceiver when it is connected with computer.Otherwise,the transceiver can not read or write frequency well,if this condition happens ,please firstly close the programming software,disconnect USB connector from computer,then ,connect the USB connect with computer again and select the corresponding COM Port to start the programming software .
So ,please power on the transceiver before connecting with the computer .Do not reset the transceiver when the transceiver is connected with the computer .


Initial Setup
Thank you for purchasing this WPS-301cloning software.
START-UP OPERATION
(1) Be sure the transceiver and PC are connected using the cloning cable.If they are not yet connected, turn all power off, then connect the cable in advance.
(2) Turn the transceiver power ON and select the RS-232C port.
(3) Push [OK] to start the initial setup.
Com Port
COM1
OK
Cancel

(picture 1)


Initial Setup
Thank you for purchasing this WPS-301cloning software.
START-UP OPERATION
(1) Be sure the transceiver and PC are connected using the cloning cable.If they are not yet connected, turn all power off, then connect the cable in advance.
(2) Turn the transceiver power ON and select the RS-232C port.
(3) Push [OK] to start the initial setup.
Com Port
COM3
OK
Cancel

(picture 2)

NOTE

The programming software of this transceiver is attached with product identifying system. therefore,when you start programming software at the first time,you should connect the transceiver and then you can run the software ,otherwise the software cannot be run.

○TECHNICAL SPECIFICATIONS

General	
Frequency Rang	VHF:136-174MHz UHF:400-480MHz (EX 400-520MHz)
Channel Capacity	200 channels
Channel Spacing	25KHz (Wide Band) 12.5KHz (Narrow Band)
Phase-locked Step	5KHz, 6.25KHz,10KHz,12.5KHz,25KHz
Operating Voltage	7.4V DC ±15%
Battery Life	More than 12 Hours (1500mAh), by 5-5-90 working cycle
Frequency Stability	±2.5ppm
Operating Temperature	-20˚c ~ +55˚c
Size	132×58×33mm (with battery ,not antenna,belt Clip)
Weight	230g (with battery,belt Clip not antenna)

Receiving Part		
	Wide band	Narrow band
Sensitivity (12dB SINAD)	≤0.25μV	≤0.3μV
Adjacent Channel Selectivity	≥60dB	≥60dB
Intermodulation	≥60dB	≥60dB
Audio Response	+1~-3dB (0.3~3KHz)	+1~-3dB (0.3~2.55KHz)
Hum & Noise	≥50dB	≥45dB
Audio Distortion	≤5%	
Audio Power Output	500mW(at 10%)	

Transmitting Part		
	Wide band	Narrow band
Power Output	4W/1W	
Modulation	16KΦF3E	11KΦF3E
Adjacent Channel Power	≥60dB	≥60dB
Hum & Noise	≥45dB	≥40dB
Spurious Emission	≤-36dB	≤-36dB
Audio Response	+1~-3dB (0.3~3KHz)	+1~-3dB (0.3~2.55KHz)
Audio Distortion	≤5%	

ATTENTION: If the specifications are changed with the technical improvement there are not further notices

○ TROUBLE SHOOTING GUIDE ELIMINATION METHOD

Problem	Corrective Action
No power	*a.* The battery may be exhausting. Recharge or replace the battery. *b.* The battery may not be installed correctly. Remove the battery and install it again. *c.* The power switch is broken; send it to local dealers to repair. *d.* Battery touch is broken; send it to local dealers to repair.
Battery power dies shortly after charging	The battery life is finished. Replace the battery pack with a new one.
Transceiver cannot scan	The channels are not in scan list. (Professionals set it.)
All band noisy after programmed	Turn on squelch when programmed. Non-professionals are advised not rammed to adjust this function
No sound after using earphone. for a while	Earphone jack is broken. Please contact with local dealers to repair.
Communication distance becomes short, and Low sensitivity	*a.* Check whether the antenna is in good conduction and the antenna base do not come adrift. *b.* Antenna connector is broken or not or with sundries.Whether it has set in low power output. (Please contact with local dealers to repair.)
Cannot talk or hear other members in your group	*a.* Different frequency or channel, please change it. *b.* Different CTCSS / DCS /DTMF, please reset it. *c.* Out of communication range.
Can not power on or frequent power off	Check weather the battery touch is out of shape or broken.
The receiving sound gets low or intermittent	Check weather the MIC is stoppage. Otherwise, please contact with local dealers to repair it.
Receiving intermittent with in big noise	*a.* Out of communication range or obstruct by tall buildings or in big noise. *b.* 450 filter is broken, Please contact with local dealers to repair.
Loudspeaker become lower or with"ka ka"sound after using a certain time	Check whether the loudspeaker is broken, Iron powder or sundries is in the loudspeaker. Please contact with local dealers to repair.
Receive voice from the other party but can not transmit	Check **[PTT]** key.
Receiving indicator with green light but no sound	*a.* Low volume, please clockwise to turn on. *b.* Loudspeaker is broken, please contact with local dealers to repair. *c.* Earphone jack is broken, please contact with local dealers to repair. *d.* Volume switch is broken.

ATTACHED CHART 1

CTCSS Frequency Chart

1	62.5	12	94.8	23	136.5	34	177.3	45	218.1
2	67.0	13	97.4	24	141.3	35	179.9	46	225.7
3	69.3	14	100.0	25	146.2	36	183.5	47	229.1
4	71.9	15	103.5	26	151.4	37	186.2	48	233.6
5	74.4	16	107.2	27	156.7	38	189.9	49	241.8
6	77.0	17	110.9	28	159.8	39	192.8	50	250.3
7	79.7	18	114.8	29	162.2	40	196.6	51	254.1
8	82.5	19	118.8	30	165.5	41	199.5		
9	85.4	21	123.0	31	167.9	42	203.5		
10	88.5	21	127.3	32	171.3	43	206.5		
11	91.5	22	131.8	33	173.8	44	210.7		

DCS Frequency Chart

1	023	18	074	35	172	52	263	69	364	86	465	103	**645**
2	025	19	114	36	174	53	265	70	365	87	466	104	654
3	026	20	115	37	205	54	266	71	371	88	503	105	662
4	031	21	116	38	212	55	271	72	411	89	506	106	664
5	032	22	122	39	**217**	56	274	73	412	90	516	107	703
6	036	23	125	40	223	57	**305**	74	413	91	523	108	712
7	043	24	131	41	225	58	306	75	423	92	526	109	723
8	047	25	132	42	226	59	311	76	**425**	93	532	110	731
9	**050**	26	134	43	243	60	315	77	431	94	**534**	111	732
10	051	27	**135**	44	244	61	325	78	432	95	546	112	734
11	053	28	143	45	245	62	331	79	445	96	565	113	743
12	054	29	145	46	246	63	332	80	446	97	606	114	754
13	**055**	30	152	47	251	64	343	81	452	98	612		
14	065	31	155	48	252	65	**345**	82	454	99	624		
15	071	32	156	49	**254**	66	346	83	455	100	627		
16	072	33	162	50	255	67	351	84	462	101	631		
17	073	34	165	51	261	68	356	85	464	102	632		

NOTE: 1. "N" stands for positive code. "I" stands for inverted code. 230 groups of DCS in total.
2. Overstriking marks are non-standard DCS

Wintec